REMARKS/ARGUMENTS

Claims 1-19 are pending. Claims 14-19 are withdrawn from consideration. Claims 1-13 stand under non-final rejection.

Election/Restriction Requirement

Claims 14-19 have been withdrawn from consideration as a result of a restriction requirement made FINAL in the pending Office Action. Applicant respectfully requests reconsideration of making the restriction FINAL since Applicant has had no opportunity up to this point to traverse the present restriction requirement (which relies on a different basis than the prior restriction requirement). Therefore, making the present requirement FINAL appears premature. Applicant respectfully requests that the Office consider Applicant's traverse before deciding to make the present restriction requirement FINAL or to withdraw the restriction requirement.

Applicant respectfully traverses the present restriction requirement. Applicant believes the grounds for rejecting Claims 1-13 are insufficient to support a *prima facie* case of obviousness and therefore insufficient to serve as basis for the present restriction requirement. Therefore, Applicant respectfully requests reconsideration of the present restriction requirement and, in particular, reinstatement and consideration of Claims 14-19 with Claims 1-13 in view of the remarks below.

35 USC §103(a) Rejection of Claim 1-13

Applicant respectfully traverses the rejection of Claim 1-13 over Singh and requests reconsideration of the claims in view of the following remarks.

Applicant's invention achieves an objective of a polyisocyanurate foam that meets especially stringent flame retardant properties (UBC 26-3 RCBT and FM 4880 requirements) while using a blowing agent that contains less than 50 percent CFC and HCFC). This flame retardant performance exceeds other less stringent flame retardancy performance standards such as ASTM E-84 Class I requirements (*see* page 1, lines 15-22 of the present Application).

Claim 1 enumerates the flame retardancy performance requirement as well as several specific limitations necessary to achieve Applicant's claimed objective. Singh

does not suggest the combination of elements Claim 1 enumerates, the specific concentrations Claim 1 enumerates, or a likelihood of achieving the stringent flame retardant properties enumerated in Claim 1. In fact, Swab (US 5102919), a patent directed specifically towards improving flame retardant properties and cited by the Office to supplement Singh in rejecting claims 3-6, only acknowledges an objective of achieving the less stringent ASTM E-84 Class I flame retardancy rating (*see* column 2, lines 53ff).

Applicant believes the Office has not met their burden of establishing a *prima facie* case of obviousness for rejecting Claim 1 for at least the following reasons:

- Singh fails to identify the specific combination and concentration of components necessary to achieve the claimed flame retardancy rating;
- More than obvious routine optimization of Singh's teaching is required to achieve Applicant's invention; and
- There is no reasonable likelihood of successfully achieving Applicant's claimed high level flame retardant properties from the teaching of Singh without hindsight from the present Application.

A *prima facie* case of obviousness requires a showing of three elements: (1) suggestion or motivation to modify a reference or to combine reference teachings; (2) a reasonable expectation of success with the modification; and (3) prior art reference (or combined references) teach all of the claim limitations. MPEP §2143.

Motivation to Modify

Singh does not teach the specific combination or concentration limitations of Claim 1, or the flame retardant performance of Claim 1. Notably, Singh fails to even mention a metal facing sheet. Therefore, the Office must modify the specific teaching in Singh to achieve the specific limitations of Claim 1. Moreover, the Office must do so without hindsight from the present Application.

The Office proposes that the teaching of Singh would lead one to Applicant's invention by "obvious routine optimization" motivated by the desire to achieve necessary flame retardancy requirements. As noted on page 1, lines 23-27 of the present Application, understanding of one or ordinary skill in the art at the time of

filing obviates such motivation since there would not be a reasonable likelihood of success without using mostly CFC and/or HCFC in the blowing agent.

Moreover, the broad and general teaching in Singh fails to provide any guidance as to what to optimize and in what combination to optimize components. Singh fails to even mention a metal facer. The teaching in Singh "gives only general guidance and is not at all specific as to the particular form of the claimed invention and how to achieve it. Such a suggestion may make an approach 'obvious to try' but it does not make the invention obvious." (Ex Parte Obukowicz, 27 USPQ2d 1063, 1065 (B.P.A.I. 1992)). The prior art in this instance gave no indication of which parameters were critical as well as no direction as to which of many possible choices are likely to be successful, as such it may be obvious to try the various parameters in numerous combinations but that does not render the specific combination and concentrations of the present claims obvious. (*see*, MPEP §2145 X. B.)

Reasonable Likelihood of Success

Prior to discovering the present invention, Applicant understood that the stringent flame retardant properties of the present invention required preparing the foam using mostly chlorofluorocarbon (CFC) and/or hydrochlorfluorocarbon (HCFC) blowing agents (*see*, page 1, lines 23-27 of the present Application). The objective of Singh is to prepare a foam using hydrofluorocarbon (HFC) and hydrocarbon (HC) blowing agents. It is therefore unlikely that Singh advocates preparing a foam using mostly CFC and/or HCFC. Indeed, the examples in Singh do not even contain CFC or HCFC. Therefore, to one of ordinary skill in the art, there would be no likelihood of successfully achieving the high level of flame retardancy required in Claim 1 from a material consistent with the teaching in Singh. Even so, one of ordinary skill in the art would not expect success in achieving the flame retardant properties with a blowing agent containing less than 50 wt% CFC and HCFC as is presently claimed.

If Applicant is mistaken on their understanding of the art in regards to flame retardancy performance at the time of filing, they respectfully request the Office to identify a source revealing that UBC 26-3 RCBT and FM 4880 requirements could be met without using mostly CFC and/or HCFC blowing agents. Otherwise, Applicant respectfully maintains that success in achieving such a stringent flame retardant

property would not have been reasonably likely based on the teaching of Singh – without improper use of hindsight from the present Application.

This same reasoning obviates that one of ordinary skill in the art would seek to, let alone expect to achieve the stringent flame retardant properties surprisingly achieved by Applicant through mere "obvious routine optimization" of elements taught in Singh as proposed by the Office.

All Claim Limitations in Reference

The Office, relying on an Official Notice for the metal facer, proposes that all of the claim limitations of Claim 1 are present in Singh. However, nowhere in Singh is there any revelation of the specific claim limitations found in Applicant's Claim 1, let alone the invention as a whole which requires the precise combination of the these limitations to pass UBC 26-3 RCBT and FM 4880 requirements.

Applicant discovered that the combination of each element in Claim 1 is necessary to achieve the stringent flame retardant properties, also specified in Claim 1, when less than half of the blowing agent comprises CFC and HCFC, as specified in Claim 1. Singh's general reference to halogenated blowing agents and auxiliary agents, which include among many other materials phosphorous flame retardants and glass fibers, fail to teach either the specific concentration limitations or the specific combination of components necessary to achieve the surprising flame retardant properties of Applicant's invention. Moreover, the Examiner's Official Notice that a metal facer is common for use on foam materials is insufficient to supplement the general teaching in Singh in order to achieve the specific of components and concentrations that, in combination with one another, make up the whole of Applicant's present invention.

The Office's rejection of Applicant's Claim 12 is particularly problematic in this regard. Claim 12 requires fibers from an expandable fiber mat. The Examiner suggest that the fibers originate as auxiliary additives in the foam components and are homogeneously mixed and extruded with the foaming mixture. Expandable fiber mat cannot be incorporated into a foam in such a manner. Therefore, the requirement of an expandable fiber mat is further distinct from any teaching in the cited reference.

Summary

Singh does not provide sufficient basis for the Office to show any of the elements for a *prima facie* case of obviousness for Claim 1, or any of Claim 2-13 which depend from Claim 1. Therefore, Applicant respectfully requests withdrawal of the rejection of Claim 1-13.

Conclusion

For the reasons stated above, Applicant respectfully requests withdrawal of the restriction requirement, withdrawal of the rejection of Claims 1-13 and issuance of a notice of allowance for all of Claims 1-19 at an early date.

Respectfully submitted,

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